REMARKS

Claims 1-3, 6-8, and 17-20 stand rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al. (U.S. 2002/0196576). Applicants respectfully traverse this rejection because the Examiner has not established a *prima facie* case of anticipation. With respect to independent claims 1 and 20 of the present invention, the Examiner had not established how the cited reference teaches (or suggests) that eccentricity correction data is recorded at a location in consideration of a yaw angle, and has not established that the correction data is recorded in the user area in the same way as the user data, but at a difference location corresponding to the yaw angle, as now more clearly featured in the independent claims. With respect to independent claim 17, on the other hand, the Examiner does not appear to have even considered the actual language of this claim in his rejection.

The Examiner has cited only one instance where Hirano discusses the yaw angle, but not in any detail. (See page 3, line 11 of paragraph [0041]). The present Specification, on the other hand, describes the yaw angle, which is between the writing head and the reading head, as ranging over several cylinders of a recording medium. (See page 13, lines 20-24). Although Hirano specifically recognizes a yaw angle, the Examiner has not identified anything in the cited portion of the reference that teaches (or suggests) that the eccentricity correction data is recorded at a location in a user data recording area away from the user data, corresponding to the yaw angle. In fact, paragraph [0041] appears to teach the opposite.

Hirano specifically states that, in response to the error amount *d* from the yaw angle, "the write head 33 writes normal data in a region 38." (Lines 16-20, emphasis added). In other words, the portions of the reference relied upon by the Examiner only describe the location of

normal data in consideration of the yaw angle, but not eccentricity correction data. Accordingly, for at least these reasons, the rejection of claims 1 (and its dependent claims) and 20 is respectfully traversed.

In the interests of expediting prosecution therefore, Applicants have amended independent claims 1 and 20 of the present invention herein to clarify these existing features of the claims. The elements featured in the claims remain the same, but the grammatical structure has been reorganized to better clarify to the Examiner the significance of some of the features. The Examiner did not give the claim phrase "in consideration of" a reasonable interpretation in light of the present Specification, so Applicants have further amended this phrase to recite a clearer grammatical equivalent that is also consistent with the present Specification. These amendments are formal in nature, and therefore no new matter has been entered, nor have any new issues been raised that would require further search or consideration by the Examiner. The present amendments merely emphasize the previously recited claim language that features how eccentricity correction data is written in a location of a user area the same way as is normal user data, but at a location away from the user data according location corresponding to the yaw angle. The Examiner has not cited to any features within the Hirano reference that would read upon these claims.

Hirano is drawn toward some techniques to prevent burst pattern error correction data on a recording medium from being erroneously read immediately after a seek operation. This burst pattern error data is stored in locations on the recording medium that are displaced in a radius direction corresponding to the write core width. The portion of Hirano cited by the Examiner merely

refers to the yaw angle as one factor of a misalignment of a write head. The cited portion does not, however, read upon the features of the present invention discussed above.

The present invention is drawn toward a method and apparatus to read head position control information reliably. The present invention may accomplish this purpose at least according to the use of a radius-directional width of a burst pattern for position control, and the application of the write head core width for a plurality of burst pattern displacement correction data. The burst pattern displacement correction data can thus be written away from each other at different locations in the circumference direction (time axis), for example, to prevent overlapping of data (if such burst pattern displacement correction data overlaps, and in consideration of the extent of such overlapping). The cited portion of Hirano, however, would require data to be written only in the boundary of the burst data because position information is written in an area modulation scheme.

According to the claims of the present invention, on the other hand, eccentricity correction data can be written in the user area (such as in the center of a read head), just as normal user data is written and handled, regardless of any particular area modulation scheme or phase modulation scheme for position information. The present invention therefore is capable of avoiding having the correction data limited to the burst boundary, as is typically employed with systems such as the portion of Hirano cited by the Examiner. The present invention can advantageously write only a single data item regardless of the width of the write head core. Although all of these arguments may not be specifically incorporated into the language of all of the claims, the main concept behind these arguments (which is recited) illustrates how the existing claim terms have not been given a reasonable interpretation or full consideration by the Examiner.

Other aspects taught by Hirano further emphasize the inappropriateness of the outstanding rejection. Hirano writes eccentricity correction data as position control/servo information. According to this type of system, user data will not be destroyed. The present invention, on the other hand, features that the eccentricity correction data is also written in the same form as the user data, but at a location away from the user data corresponding to the yaw angle. In operation, this type of system may theoretically risk that adjacent track data may be destroyed, but the present invention is advantageously also capable of avoiding such risks by skipping destroyed areas. Burst pattern misposition correction data in Hirano, on the other hand, would simply be written as servo information.

The Examiner has cited to no teaching or suggestion within Hirano where the possibility of erroneously reading such burst pattern misposition correction data is considered. The present claims though, specifically recite that the correction data is written in the same way as normal user data, but merely at another location. The correction data of the present invention therefore will not be written as servo information, which would be subject to the problems discussed above, and instead may be written as reliable data. Accordingly, for at least these reasons, the Section 102 rejection based on Hirano should be withdrawn.

With respect to independent claim 17, the Examiner has not even asserted that Hirano teaches (or suggests) all of the features of this claim. Claim 17 does not recite all of the same features as independent claim 1, yet the Examiner has lumped these two claims together in a single rejection, while only discussing some of the elements of claim 1. Accordingly, because full

consideration has not been given to claim 17 (and therefore its dependent claims as well), the rejection is deficient on its face, and should be withdrawn.

Nevertheless, claim 17 has also been amended herein, and in a similar manner to the amendments to independent claims 1 and 20. Applicants submit that the grammatical restructuring and clarification of this claim further renders the outstanding rejection of claim 17 inappropriate.

Claims 4-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano in view of Shibata (U.S. 2002/0126412). Applicants respectfully traverse this rejection for at least the reasons discussed above traversing the rejection based on Hirano alone. Claims 4 and 5 both depend from independent claim 1, and therefore contain all of the features of the base claim, plus additional features. Shibata is not cited for teaching anything further regarding the yaw angle, or the recording location of the eccentricity correction data based upon the yaw angle.

Shibata merely relates to some techniques of making a head position stable. Typically, during normal operation, eccentricity correction data of a particular track is obtained for each head, and stored in a memory. Based on such recorded eccentricity correction data, an adaptive learning function may be used to find optimal eccentricity correction data for any particular track. The adaptive learning function is turned off during seek operation, and turned back on during a track following operation. These teachings of Shibata do not read upon the present invention, and particularly claims 4-5.

Shibata merely stores eccentricity correction data in a flash ROM, which is shown to be a non-volatile memory means. Shibata does not teach or suggest to alternatively record such eccentricity correction data in the recording medium itself in the same way as normal user data. And

because Shibata does not even record the correction data on the recording medium itself, it could not teach or suggest to record such information on the disk at a position determined by the yaw angle. Accordingly, the proposed combination fails to read upon the present invention, and the rejection based on this proposed combination should further be withdrawn.

For all of the foregoing reasons, Applicants submit that this Application, including claims 1-8 and 17-20, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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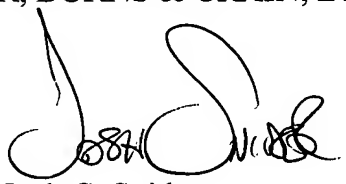
By: 

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